SHELL MOUND SEAWALL REPAIR
CONSTRUCTION DRAWINGS

PREPARED FOR:
TOWN OF FORT MYERS BEACH

PUBLISHED TIDAL INFORMATION:

TIDAL DATUMS AT ESTERO ISLAND, ESTERO BAY ARE BASED ON FLORIDA 872 5351

TIME PERIOD	= JUNE 1973 - JUNE 1973
TIDAL EPOCH	= 1983 - 2001
CONTROL TIDE STATION	= NAPLES, GULF OF MEXICO (872 5110)

ELEVATIONS OF TIDAL DATUMS ARE REFERENCED IN NAVD 1988.

MEAN HIGHER HIGH WATER (MHHW)	= +0.43 FT NAVD
MEAN HIGH WATER (MHW)	= +0.13 FT NAVD
MEAN LOW WATER (MLW)	= -1.63 FT NAVD
MEAN LOWER LOW WATER (MLLW)	= -2.12 FT NAVD

INDEX:

LOCATION MAP
N.T.S.

GENERAL NOTES:

1. SURVEY COMPLETED BY COASTAL ENGINEERING CONSULTANTS, INC., ON OCTOBER 30, 2017.
2. PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE WEST ZONE OF FLORIDA AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
3. ELEVATIONS SHOWN HEREON ARE IN FEET AND TENTHS AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988). REFERENCE BENCHMARK: G 245, EL. 4.97' NAVD.
4. SURVEY ACCURACY STANDARDS, QUALITY CONTROL, AND QUALITY ASSURANCE REQUIREMENTS WERE FOLLOWED DURING THIS SURVEY IN ACCORDANCE WITH USACE EM 1110-2-1003, HYDROGRAPHIC SURVEYING MANUAL, 1 JAN 02.
5. INFORMATION SHOWN HEREON REFLECTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
6. AERIAL PHOTOGRAPHY OBTAINED FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION, DATED 2017.

CONSTRUCTION NOTES:

1. PRIOR TO EXCAVATION THE CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITIES AND DRAINS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF EXISTING SEAWALLS AND FILL DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL DEMOLISH, REMOVE, AND DISPOSE OF IN AN APPROVED OFF SITE DISPOSAL AREA THE EXISTING CONCRETE SEAWALL WITHIN THE LIMITS OF THE DOCK/SEAWALL TO BE REPAIRED/REPLACED.
4. MINIMUM CONCRETE COVERAGE OVER STEEL REINFORCING TO BE 3 INCHES.
5. CONCRETE FOR THE SEAWALL PANELS AND CAP BEAM SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI AND MEET ASTM C-94. PORTLAND CEMENT SHALL BE TYPE II WITH MICROSILICA (MIN. 50 LB) AND FLY ASH. MINIMUM CEMENT CONTENT SHALL BE 700 POUNDS PER CUBIC YARD WITH A MAXIMUM WATER-CEMENT RATIO OF 0.44. SLUMP RANGE: 5 INCHES ± 1 INCH. AIR ENTRAINMENT: 4 PERCENT BY VOLUME. MIX DESIGN SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
6. MIXING: MINIMUM 70 AND MAXIMUM 270 REVOLUTIONS OF MIXING DRUM. NONAGITATING EQUIPMENT IS NOT ALLOWED. CONCRETE SHALL BE PLACED WITHIN 1½ HOURS AFTER THE CEMENT HAS BEEN ADDED TO THE MIX.
7. DO NOT PLACE CONCRETE IN A FORM UNTIL THE FORM HAS BEEN INSPECTED AND APPROVED BY THE OWNER AND ENGINEER. ALTHOUGH THE OWNER AND ENGINEER INSPECTS AND APPROVES THE FORMS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING SATISFACTORY CONCRETE SURFACES, FREE FROM WARPING, BULGING, OR OTHER OBJECTIONABLE DEFECTS.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL RISKS CONNECTED WITH THE PLACING AND CURING OF CONCRETE. ALTHOUGH THE ENGINEER MAY GIVE HIM PERMISSION TO PLACE CONCRETE, THE CONTRACTOR IS RESPONSIBLE FOR SATISFACTORY RESULTS. SHOULD THE CONCRETE THE CONTRACTOR PLACES PROVE UNSATISFACTORY, THE CONTRACTOR SHALL REMOVE, DISPOSE OF, AND REPLACE THE CONCRETE AT NO EXPENSE TO THE OWNER.
9. CONSOLIDATE THE CONCRETE BY CONTINUOUS WORKING WITH A SUITABLE TOOL IN AN ACCEPTABLE MANNER, OR BY VIBRATING. WHEN NOT USING VIBRATORS, THOROUGHLY WORK AND COMPACT ALL THIN-SECTION WORK WITH A STEEL SLICING ROD. SPADE ALL FACES, AND FLUSH THE MORTAR TO THE SURFACE BY CONTINUOUS WORKING WITH A CONCRETE SPADING IMPLEMENT.
10. REMOVE FORMS FROM CAP BEAM AFTER CONCRETE HAS OBTAINED 70% OF THE SPECIFIED 28-DAY STRENGTH OR APPROVAL IS OBTAINED IN WRITING FROM ENGINEER.
11. CONCRETE PANELS SHALL BE INSTALLED PLUMB. PANELS EXCEEDING TOLERANCE OF 1/2 INCH WHEN MEASURED WITH A 5-FOOT STRAIGHT EDGE SHALL NOT BE ACCEPTED.
12. CONCRETE PANELS SHALL HAVE A MINIMUM 50% PENETRATION.
13. TRANSITIONS BETWEEN FINISHED CONCRETE CAP BEAM SECTIONS SHALL BE SMOOTH AND CONTINUOUS.
14. FILTER CLOTH SHALL BE INSTALLED AT EACH EXISTING AND NEW SEAWALL PANEL JOINT AND WEEP HOLE.
15. IN THE EVENT THAT ADDITIONAL CUBIC YARDS OF CLEAN BACKFILL MATERIAL ARE REQUIRED TO ACHIEVE THE DESIGN ELEVATIONS LANDWARD OF THE SEAWALL, THE CONTRACTOR SHALL IMPORT CLEAN OFF-SITE FILL MATERIAL CONSISTING OF FINE GRAINED QUARTZ SAND TO ACHIEVE THE FINAL GRADES AND TOLERANCES AS SPECIFIED ON THE CONSTRUCTION PLANS. THE MATERIAL SHALL BE FREE FROM DIRT, CLAY BALLS, MUCK, ROOTS, AND ORGANIC MATTER AND CONTAIN LESS THAN 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE. SAMPLE SHALL BE PROVIDED TO OWNER AND ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.
16. FILL SHALL BE PLACED IN 6 INCH LIFTS AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T 99.
17. FILL AND GRADE PROPERTY UPON ACCEPTANCE OF SEAWALL REPLACEMENT.
18. LANDSCAPING AND IRRIGATION SHALL BE RESTORED BY OWNER.

MARK A. KINCAID LICENSE No 58654 STATE OF FLORIDA PROFESSIONAL ENGINEER

N

NO.	DATE	BY	REVISION DESCRIPTION

DATE: 11/16/2017 SCALE: AS NOTED
DRAWN: SDB F.B.
CHECKED: MAK PG.
SEC. TWP. RNG.
ACAD NO. 17236-C.dwg
REF. NO. 17.236

CLIENT: TOWN OF FORT MYERS BEACH

TITLE: SHELL MOUND SEAWALL REPAIR
COVER SHEET

CIVIL ENGINEERING
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COASTAL ENGINEERING
ENVIRONMENTAL
PLANNING SERVICES

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SHEET 1
FILE NO.: 17236-C-1

N

0 4 8 16

EXISTING SEAWALL TO REMAIN

EXISTING TIMBER PILE (TYP)

EXISTING TIMBER DOCK

13'x20' EXISTING DOCK TO BE REMOVED FOR SEAWALL REPAIR

2.5' EXISTING SEAWALL CAP TO BE REMOVED

EXISTING CONCRETE PAD AND DAVIT TO BE REMOVED

PROPERTY LINE

67 LF OF EXISTING SEAWALL TO BE REMOVED

EXISTING 15" RCP OUTFALL TO BE REMOVED

EXISTING CATCH BASIN TO BE REMOVED

EXISTING CONCRETE PAD AND DAVIT TO BE REMOVED

EXISTING POWER POLE

SHELL MOUND BLVD

× 4.6 × 3.6 × 4.2 × 3.8 × 3.9 × 3.8 × 3.4 × 3.5 × 3.5 2.6 × 0.8 × -1.7 -0.2 × 3.4 × 1.4 × 1.0 × 3.4 × 1.4 × 2.1 × 0.2 1.3 × 1.4 × 2.5 × 3.1 × 0.5 × 2.2 × 2.3 × 1.6 2.9 × 3.5 × 3.8 × 2.2 × 4.2 × 3.4 × 4.3 × 4.2 × 4.4 × 4.3 × -1.6 × -1.4 × -2.0 × -1.2 × -0.5 × -0.1 × -0.4 0.4 0.7 × 0.6 × -0.4 × 3.2 × 3.2 × -0.6 × -0.8 × -1.0 × -1.1 × -1.6 × -1.7 × -2.3 × -3.4 × -3.0 × -2.5

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PG.

CLIENT: TOWN OF FORT MYERS BEACH

TITLE: SHELL MOUND SEAWALL REPAIR EXISTING CONDITIONS PLAN

CIVIL ENGINEERING
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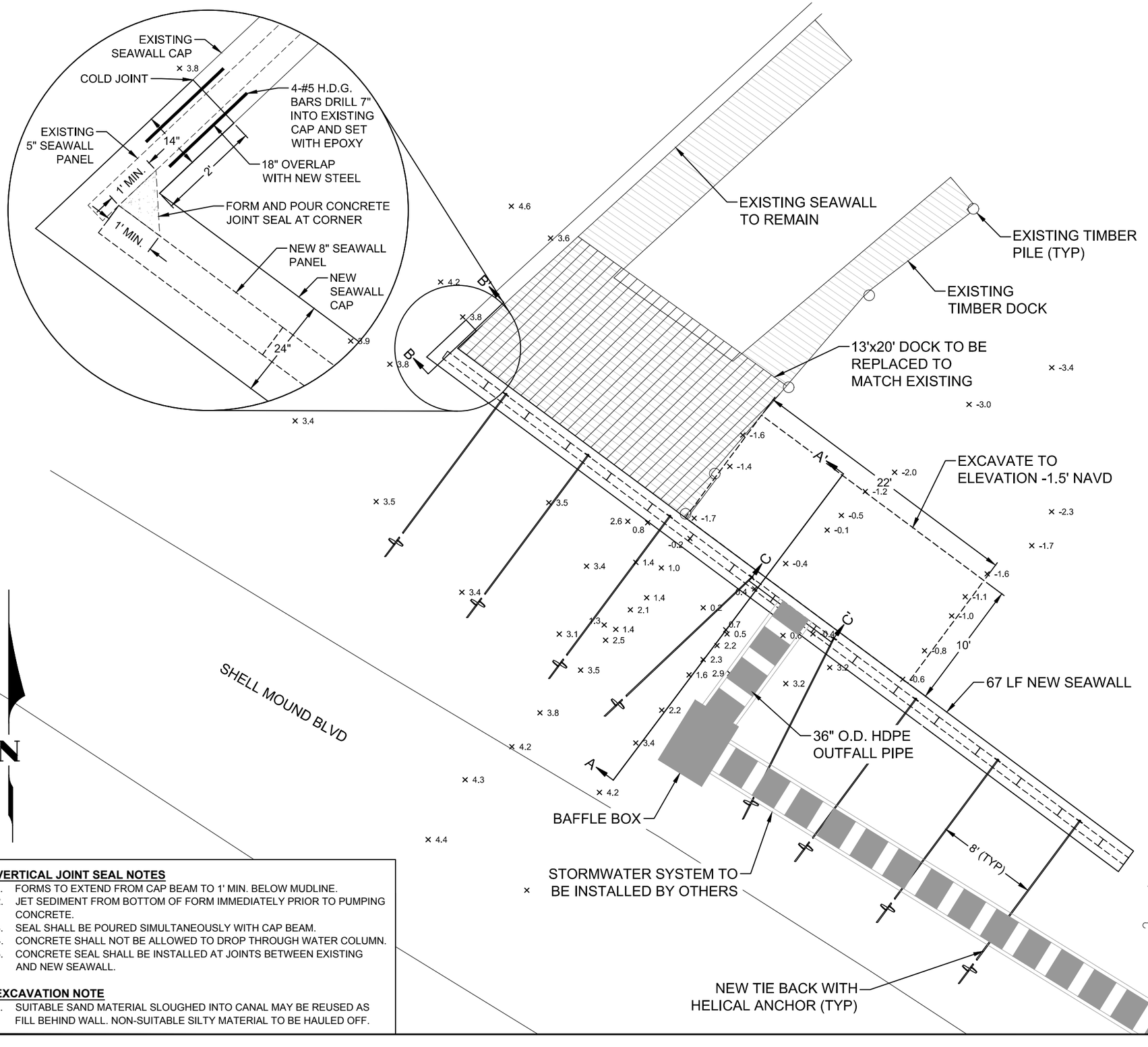
SHEET 2
FILE NO.: 17236-C-2



HELICAL ANCHOR TIE BACK SYSTEM

CHANCE SS125 SQUARE SHAFT HELICAL ANCHOR (OR APPROVED EQUAL)
HOT DIPPED GALV. FINISH
MINIMUM CAPACITY: 12, 000 LBS
TERMINATE ANCHORS WITH THREADED STUD SOCKET ADAPTOR AND 6" X 6" X 3/8" HDG PLATE

NOTES

1. TIE BACK SPACING SHALL BE AS NOTED ON PLANS.
2. HELICAL ANCHORS SHALL PENETRATE A MINIMUM OF 10 FEET INTO UNDISTURBED SOILS.
3. EXISTING TIE BACKS MAY BE CUT AND LEFT IN PLACE.
4. NEW TIE BACKS MAY BE LOCATED BETWEEN EXISTING.
5. TIEBACKS (4) EAST OF OUTFALL TO BE INSTALLED AT 60° ANGLE RELATIVE TO THE SEAWALL PANEL TO ACCOMMODATE NEW STORMWATER SYSTEM.
6. TIEBACKS (2) ON EITHER SIDE OF OUTFALL LOCATION ANGLED 10° AWAY FROM BAFFLE BOX.

VERTICAL JOINT SEAL NOTES

1. FORMS TO EXTEND FROM CAP BEAM TO 1' MIN. BELOW MUDLINE.
2. JET SEDIMENT FROM BOTTOM OF FORM IMMEDIATELY PRIOR TO PUMPING CONCRETE.
3. SEAL SHALL BE POURED SIMULTANEOUSLY WITH CAP BEAM.
4. CONCRETE SHALL NOT BE ALLOWED TO DROP THROUGH WATER COLUMN.
5. CONCRETE SEAL SHALL BE INSTALLED AT JOINTS BETWEEN EXISTING AND NEW SEAWALL.

EXCAVATION NOTE

1. SUITABLE SAND MATERIAL SLOUGHED INTO CANAL MAY BE REUSED AS FILL BEHIND WALL. NON-SUITABLE SILTY MATERIAL TO BE HAULED OFF.

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SEAWALL REPAIR PLAN

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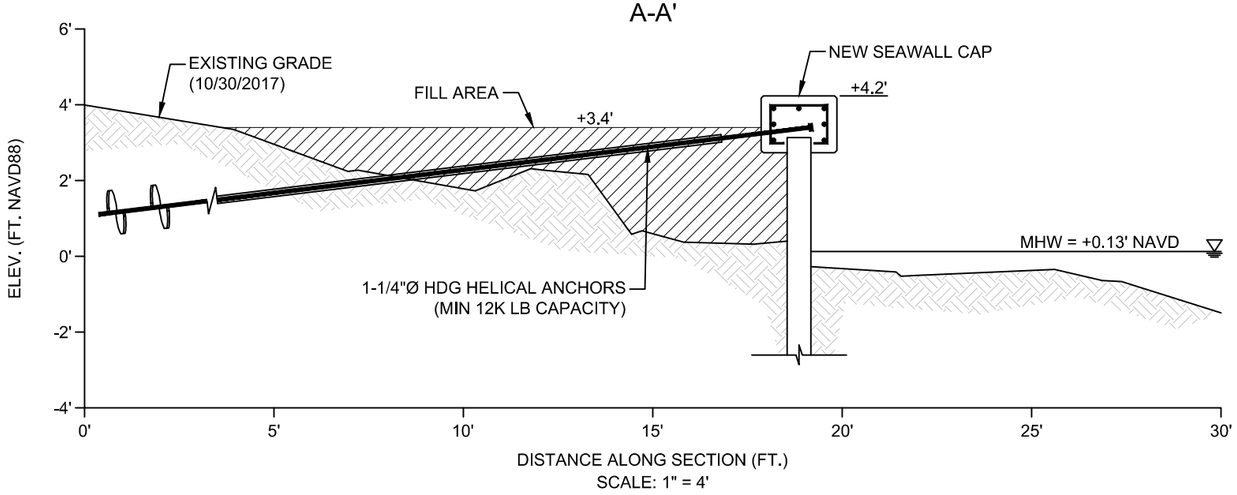
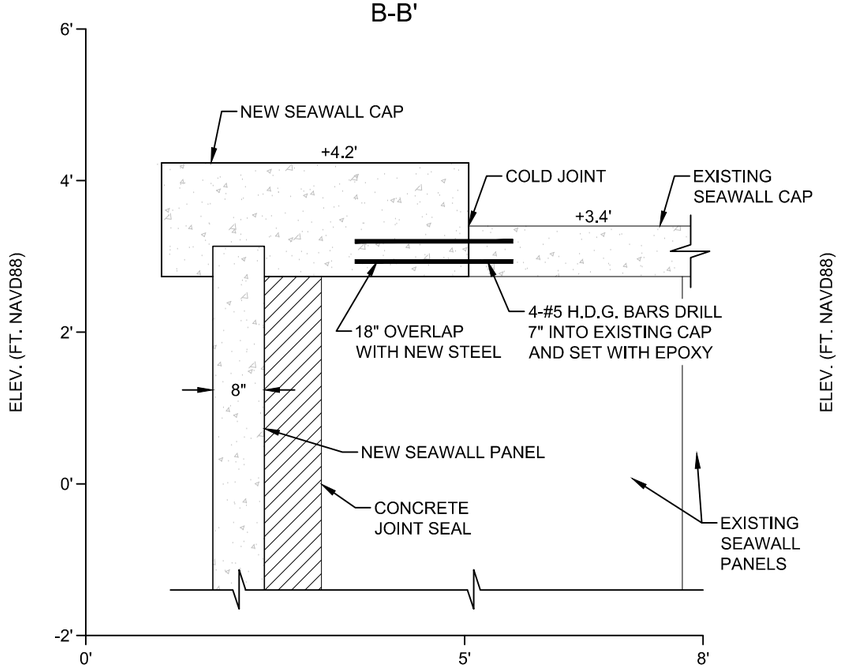
SHEET 3
FILE NO.: 17236-C-3

A-A'



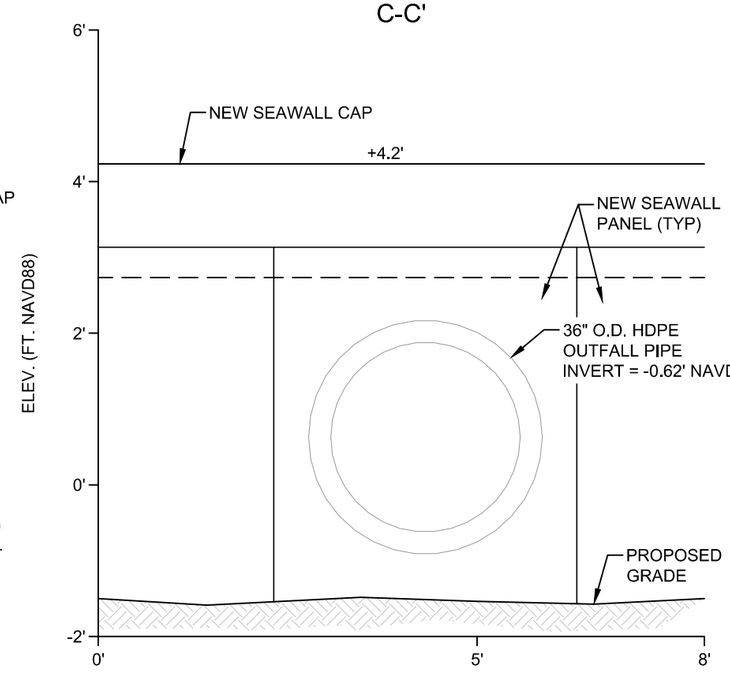
SCALE: 1" = 4'

B-B'



SCALE: 1" = 2'

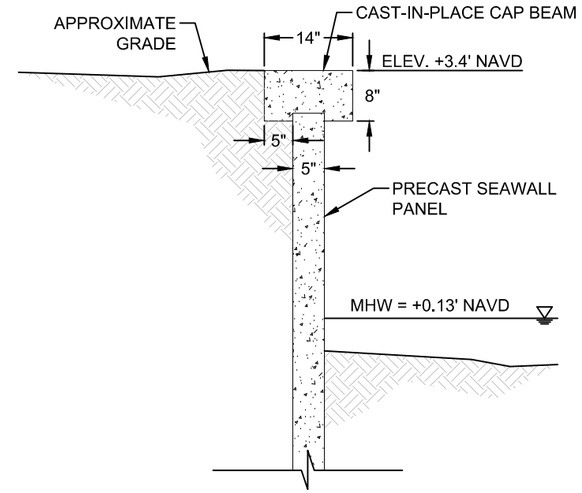
C-C'



SCALE: 1" = 2'

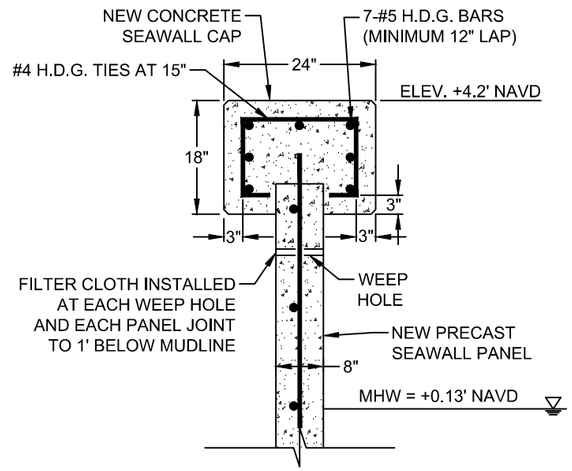
STORMWATER OUTFALL PENETRATION NOTES

1. REMOVE DEBRIS TO ACCOMMODATE INSTALLATION OF NEW SEAWALL PANELS.
2. INSTALL NEW PANELS IN ALIGNMENT WITH OUTBOARD FACE OF EXISTING SEAWALL PANELS.
3. CAST PANEL WITH 36" O.D. PLUG AS SHOWN IN SECTION C-C'.
4. PLUG TO BE REMOVED BY OTHERS DURING OUTFALL INSTALLATION.
5. MODIFY REINFORCING STEEL FOR OUTFALL PANEL TO MAINTAIN 3" MIN. COVER.
6. NO CONTINUOUS STEEL THROUGH PLUG.



TYPICAL EXISTING SEAWALL SECTION

SCALE: 1" = 2'



TYPICAL PROPOSED SEAWALL SECTION

SCALE: 1" = 2'

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SEAWALL REPAIR DETAILS

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SHEET 4
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